

PROCESS AND APPARATUS FOR THE DESTRUCTIVE
DISTILLATION OF RUBBER

ABSTRACT OF THE DISCLOSURE

5 An improved process and apparatus for the destructive
distillation or pyrolysis of rubber, such as used rubber tires,
to produce liquid and gaseous hydrocarbons and a solid
carbonaceous char. A heat transfer gas circulating in a
10 circulation loop is used to cool the hot char produced in the
distillation chamber of a distillation oven, the circulation
loop having some means for removing the heat transferred to the
heat transfer gas from the hot char. In one embodiment, two
15 distillation ovens are operated in off-set, batchwise
distillation cycles. The distillation cycles in the two ovens
are coordinated so that a fresh charge of rubber feed is
introduced into the distillation chamber of one of the ovens as
the distillation of rubber in the other oven is concluded. The
20 heat transfer gas is then circulated through both distillation
chambers of the two ovens such that heat is transferred from
the hot char produced in one oven at the end of a cycle to the
heat transfer gas, and then transferred from the gas to the
cold rubber feed introduced into the distillation chamber of
the other oven at the beginning of a cycle to preheat the
25 rubber feed. An effective means for determining the
distillation end point and a pressurized distillation oven door
seal are also provided.